

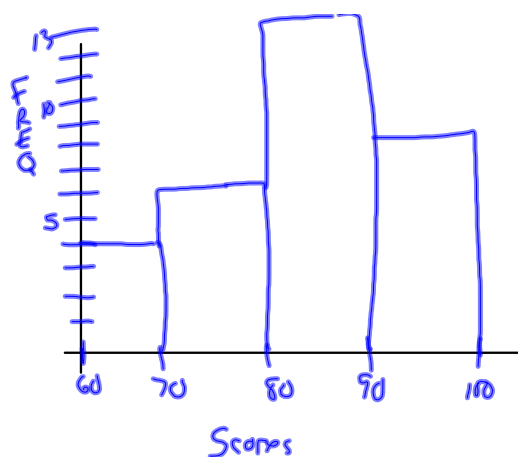
Statistics

Thirty-one students received the following scores on a test:

77	67	91	63	81	89	100	73	67
85	89	89	95	83	79	89	66	
83	88	97	74	77	88	89	95	
79	83	95	83	98	94			

Stem and Leaf Plot

6	3, 6, 7, 7
7	3, 4, 7, 7, 9, 9
8	1, 3, 3, 3, 3, 5, 8, 8, 9, 9, 9, 9, 9
9	1, 4, 5, 5, 5, 7, 8
10	0



Averages (Central Tendency)

Mean—sum of the data divided by the number of the items of data.

Median—the middle number when the data are arranged in order. (If even, then average of the two middle numbers.)

Mode—the most frequently occurring number

The range is the difference between the highest and lowest values.

What are the mean, median, mode and range of the test scores?

$$\text{Range} \rightarrow 100 - 63 = 37$$

$$\text{Median} = 85$$

$$\text{Mode} = 89$$

$$\text{Mean} = 84.1$$

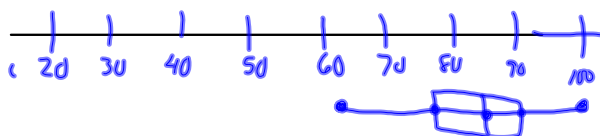
$$\frac{2606}{31}$$

Box and whisker plots

Need: highest score, lowest score, median score, and first and third quartile scores

Arrange the data in order and the median is the middle score. The first quartile score is the median of the bottom half of the data. The third quartile score is the median of the upper half of the data.

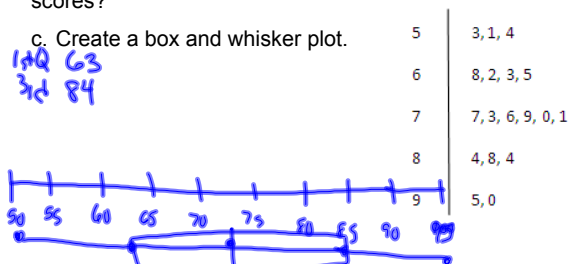
Interquartile Range $91 - 77 = 14$



Use the distribution of scores given by the stem and leaf plot shown at the right.

- List the original scores in order.
- What are the median, mean, mode, and the range of the scores?

- Create a box and whisker plot.



5	3, 1, 4
6	8, 2, 3, 5
7	7, 3, 6, 9, 0, 1
8	4, 8, 4
9	5, 0